

**Optimus Rotor Control Low Speed**  
**replacement**  
**Low Speed Rotor Control (unit 4512 104 7130x / PCB 4512 108 0590x)**

Before replacing a low speed rotor control unit carry out the following measures:

**If breakers ENF1 / 2 / 3 tripped due to an unknown reason they should not be turned back on. First check:**

**1) mains supply and distribution**

- cut the generator from mains:  
remove mains lines from the wall junction box (Optimus RAD = Bucky)
- check that all mains phases and properly connected at the wall junction box and inside of the generator
- the neutral line must also have a low resistance continuity  
from the mains supply (5-wire mains) to ENX1101/2  
or  
inside the generator from the 480...400VAC mains adaptation transformer ENT:04 -  
ENX1101/2 (Optimus RAD only).
- check at open breakers (off condition) that no contact is welded (Ohm-meter)

ENF1	L1 - T1	Optimus 50	2422 129 15514
	L2 - T2	or successor	2422 129 16291
	L3 - T3	Optimus 65/80	2422 129 15513
		or successor	2422 129 16292

ENF2	L1 - T1	Optimus 50/65/80	2422 129 00341
	L2 - T2	or successor	2422 129 16288
	L3 - T3		

ENF3	L1 - T1	Optimus 50/65/80	2422 129 15665
	L2 - T2	or successor	2422 129 16508
	L3 - T3		

- check that no contact of contactor ENK2 is welded (mechanical check: if snap-on auxiliary contacts can not be removed from the main contactor at least one contact is welded)

ENK2	phase 1	1 - 2	Optimus 50/65/80 contactor	2422 132 06621
	phase 2	3 - 4	+ 3 auxiliary contacts NO	2422 135 04355
	phase 3	5 - 6	+ 1 auxiliary contact NC	2422 135 04023
			or successor contactor	2422 132 07381
			+ succ. aux. contact block	2422 135 04664
			+ succ. R/C circuit	2422 135 04661

**!!** In case one of the contacts is welded the converter DC discharge time will be  
**!!** much longer as the discharging auxiliary contact ENK2 41-42 can not be closed.  
**!!** (600V DC discharge time to < 60V DC approximately 40 **seconds**,  
**!!** with open contact > **11 minutes !!** to be < 60V DC)



## 5) tube extension EWG check

Breaker ENF3 should still be off but the generator be on.

Check that one of the stator relays EWGK11/12 is energized  
(old version relays = small brown indication pin **not** at left edge of the slit)  
(*new version relays = brown indicator pulled inside*).

The contactor must not be activated manually.

The contact resistance can not be measured with a regular Ohm-meter as the small current of the meter pretends a very high resistance (as a matter of the silver plated contact area). It must be measured invasive with at least 2 A passing the closed contact. As the contact should have a typical resistance of < 0.1 Ohm, the voltage measured via the contact should not increase 0.2 Volt (with 2A).

EWGK11	phase U	1 - 2	relay	2422 135 03942
	phase V	3 - 4	successor relay	2422 132 07379
	phase W	5 - 6		
EWGK12	phase U	1 - 2		
	phase V	3 - 4		
	phase W	5 - 6		

If the measured value is higher, exchange the relay.

## 6) replacement of rotor control PCB YA100

Switch off the generator with ENF1 or with the room mains switch.

If chapters **1)...5)** are error-free or parts have been replaced, exchange rotor control PCB.

**The entire old PCB / unit must be discarded.**

**It must be disposed of in accordance with the local environmental regulations.**